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Listing of Electric Power Facilities in the USSR

18 December 1964

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MEMORANDUM FOR: Mr. T.W. Mermel, Assistant to the Commissioner for Research, Bureau of Reclamation, Department of Interior

SUBJECT: Listing of Selected Electric Power Facilities in the USSR

Attached is a descriptive listing of electric power facilities in the USSR. It is sent in response to your telephoned request to this branch, who passed your request on to me. If you have any questions regarding the facilities, or wish similar information on other facilities, I may be reached (

Attachment:
As stated above

Listing of Selected Electric Power Facilities in the USSR

The Kiev GES is being built on the Dnepr River, near Vyshgorod about 10 miles above Kiev, in the Ukrainian SSR. It will consist of two plants: a run-of-the-river plant and a pumped storage plant. The run-of-the-river plant will have 20 horizontal capsule-type hydro turbines, with a total capacity of 326 mw, and is being built without a machine hall. The first four units are scheduled to go into operation at the end of 1964, and the rest in 1965. In addition there will be a pumped storage station with a capacity of 200 mw for meeting the peak load. It will have six units, of which three will be reversible.

The Kislaya Guba tidal power station, a small experimental station, is to be commissioned in 1965. A reinforced concrete floating dock, which will house the station, is being constructed in Kola Bay, near Murmansk. It will be towed to Kislaya Bay and sunk to the sea bed. The three 400 kilowatt turbines will be reversible, turning in one direction during flood tide and in the other direction during ebb tide.

The Inguri GES is being constructed near Zugdidi in western Georgia in the Transcaucasus. It will have an arch dam 300 meters high, which will back up a reservoir holding 1.5 billion cubic meters of water. The capacity of the powerplant will be 1,600 mw, and the first unit is scheduled to go into operation in 1967.

Toktogul GES, under construction in a narrow gorge of the Naryn River in the Kirgiz SSR in Central Asia, will have an arch-gravity type dam 215 meters high. It will have an underground machine hall housing six hydro turbines, with a total capacity of 1,200 mw. Preliminary earth moving is now underway.

Nurek GES is being constructed on the Vakhsh River, high up in the mountains of the Tadzhik SSR in Central Asia. It will have an arch dam 310 meters high, nine generating units of 300 mw each, and a total capacity of 2,700 mw. The main construction effort is now underway, and the first units may go into operation in 1967.

The Krasnoyarsk GES is on the Yenisey River, about 22 miles upstream from Krasnoyarsk in East Siberia. It will have a total capacity of 5,000 mw, comprised of ten 500 mw units, the first four of which are scheduled to go into operation by the end of 1965.

The Mamakan GES is on the Mamakan River, near Bodaybo in East Siberia in the permafrost zone, and supplies power to the goldfields. It has four 22 mw units, with a total capacity of 88 mw, and was completed in 1963.

The Vilyuy GES is being constructed at a rapids on the Vilyuy River near Chernyshevskiy, in the permafrost zone, 110 kilometers north of Mirnyy in East Siberia, and will supply power to the diamond mines of Mirnyy. It will have four 79 mw units, with a total capacity of 316 mw. The river was dammed in November 1964, but construction is behind schedule, and the first unit is now planned to go into operation in 1966.

The Sayan GES is under construction on the Upper Yenisey River where it emerges from the high cliffs of the Sayan Mountains, about 400 kilometers upriver from Krasnoyarsk, in East Siberia. It will have a gravity arch dam 236 meters high, twice as high as the Krasnoyarsk GES.

The total capacity will be 6,360 mw, with twelve units of 530 mw each, the first one scheduled to go into operation in 1970. Surveying has been completed, and preliminary work has just gotten underway.

750 kv Alternating Current Line

An experimental 750 kv ac transmission line is under construction to transmit current from the Konokovo GRES, in Kalinin Oblast, to Moscow. The line, which will be 90 kilometers long, will be commissioned in 1965. Konokovo has just put its first 300 mw unit into operation. When completed, it will have a capacity of 2,400 mw.

800 kv Direct Current Line

An 800 kv dc transmission line has been completed from Volgograd to the Donbas area of the Ukraine, a distance of 473 kilometers. It is planned to carry 750 mw of current from the Volgograd hydroelectric powerplant to the Mikhaylovka substation in the Donbas, but it can be reversed and carry current in the opposite direction.* One half-circuit of the line was tested at full load in August of this year, and the substations of the line are to be commissioned at full capacity by the end of the year.

* The line has two independent half-circuits with a rated voltage of $\pm$ 400 kv (800 kv between poles).